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Protecting the Health of the Reserve Component

As the study team gathered information to address its charge, it became clear that several areas of the study focus warranted emphasis for the reserve forces. This chapter highlights particular needs for medical surveillance, record keeping, preventive measures, and reintegration support for the reserve components. In its 1996 report, *Health Consequences of Service During the Persian Gulf War: Recommendations for Research and Information Systems,* the Institute of Medicine (1996a) recognized the special needs and unique concerns of deployed members of the reserve forces. The report found that:

> National Guard and reserve component personnel may differ substantially from active duty personnel in average age, level of training, occupational specialties, family status, and readiness for deployment. Further, it is unclear whether either policies and procedures or the manner in which they are implemented differs between activated reserve or National Guard units and active duty troops for mobilization, deployment, demobilization, and return. All of these factors may affect the health consequences of deployment. (p. 30)

The committee recommended research

> to determine whether differences in personal characteristics or differences in policies and procedures for mobilization, deployment, demobilization, and return of reserves, National Guard, and regular troops are associated with different or adverse health consequences. If there are associations, strategies necessary to prevent or reduce these adverse health effects should be developed. (p. 30)

Those observations reflect the situation in 1995.

In 1999, more information about the reserve force is available. Published data and testimony from experts in the reserve force enabled the study team to document more clearly the distinctions between the reserve and active-duty forces in terms of access to health care, health surveillance programs, medical record keeping, preventive measures, and reintegration support. It has become apparent that the currently available resources are not adequate to ascertain the medical readiness of the reserve force, much less to provide the preventive services, health surveillance, and medical record keeping that the study team recommends for the total military force. The unique needs and issues of the reserve force mandate both a special chapter in this report and special attention to these concerns.

This chapter is focused on the reserve component with the specific objective of ensuring that the study recommendations are considered and implemented to the extent possible for reserve troops as well as for active-duty component troops. Since the reserve component constitutes almost 50 percent of the total military force of the United States and up to 41 percent of deployed forces in recent major deployments (Perry et al., 1999), the differences in medical protection, health consequences and treatment, and medical record keeping and surveillance between the reserves and active-duty forces must be addressed in any strategy to protect the health of U.S. forces. Differences must be eliminated whenever possible and given special attention when they result from the unique demographics of the reserve force.

DEMOGRAPHICS AND HEALTH ISSUES

Seven components constitute the reserve force. These include the Army National Guard, Army Reserve, Naval Reserve, Marine Corps Reserve, Air National Guard, Air Force Reserve, and Coast Guard Reserve. According to law,

> the purpose of each Reserve component is to provide trained units and qualified persons available for active duty in the armed forces, in times of war or national emergency, and at such other times as the national security may require, to fill the needs of the armed forces whenever, during and after the period needed to procure and train additional units and qualified persons to achieve the planned mobilization, more units and persons are needed than are in the regular components. (United States Code, 1998)

Categories of Reserve Forces

The reserve forces are not monolithic but have different categories with different circumstances and needs. Among the seven reserve components described above, there are three main categories: the Ready Reserve, the Standby Reserve, and the Retired Reserve. The Ready Reserve (1.4 million people in fiscal year 1998) is made up of the Selected Reserve, and the Individual Ready Reserve and Inactive National Guard (IRR/ING). The Selected Reserve are those best known

to civilians. They are required to do 48 drills a year and to have at least 14 days of annual training. IRR/ING are also available to be called up, but they are not required to do the regular drilling and training required of the Selected Reserve. Because they are not part of regular units, they are even more difficult to reach for required programs, surveys, immunizations, and so forth. The Standby Reserve is a fairly small group of those who are temporarily disabled or who cannot perform their duties because of their essential government jobs, for example. A final category is the Retired Reserve, roughly 521,000 people in fiscal year 1998 and slightly more than a quarter of the total U.S. Department of Defense (DoD) retiree population (Kohner, 1999a).

Demographics

Both during and since the Gulf War, the demographics of service members in the reserve components have differed somewhat from those on active duty. In the Gulf War, Reserve units were 14.7 percent female, with 69.7 percent white, 20.8 percent black service members, and 9.5 percent service members of other races or ethnicities. The average age of reservists in 1991 was 30.4 years. The National Guard units deployed to the Gulf had 9.6 percent women, with 75.4 percent white, 18.3 percent black, and 6.3 percent other service members. The average age for the National Guard participants in 1991 was 32.6 years (Murphy et al., 1999). The proportion of both National Guard and Reserves with dependents was 51.7 percent (Dove et al., 1994a). Active-duty service members deployed to the Gulf War included 6.1 percent women, with 66.8 percent white, 23.2 percent black, and 10.0 percent other service members. The average age of active-duty troops was 27.4 years in 1991, and 50.4 percent had dependents (Dove et al., 1994b; Murphy et al., 1999). For more recent deployments, some demographic differences between reserve and active-duty members are greater. Roughly 70 percent of reserves deployed to Bosnia and Southwest Asia (since 1994 and 1995) have had dependents, whereas the proportion was 54 to 57 percent for active-duty troops (30 percent of reserves deployed to Haiti have had dependents). Women constituted 13 to 15 percent of reserve units sent to Haiti and Bosnia and 7.6 percent of those deployed to Southwest Asia, whereas women constituted 6 to 8 percent of the deployed active-duty forces (Perry et al., 1999).

Considering the military forces in their entirety, the average age of active duty service members is 32.4 years for officers and 26.2 years for enlisted members, whereas for the Selected Reserve it is 39.9 years for officers and 32.2 years for enlisted members. Women make up 14.1 percent of the total active-duty force and 15.8 percent of the Ready Reserve. Approximately 60 percent of both active-duty and reserve forces have dependents. (Kohner, 1999b).

Deployments of Reserve Forces

The reserve components play an increasingly critical role in the total armed forces of the United States. As noted in Chapter 7, National Guard and Reserves constituted a larger portion of the force deployed in the Gulf War than in any previous mobilizations. Of the 696,531 service members deployed to the Gulf War, 9.8 percent were members of the Reserves and 6.2 percent were members of the National Guard (Gray et al., 1998). Since then, reserve forces have increasingly been integrated into the total force. Although the active-duty component made up 51.2 percent of the total force in 1998, the Selected Reserve constituted 32.1 percent and the IRR/ING made up 16.7 percent. Some capabilities exist only in the reserve components, so reserves are mandatory assets for particular missions.

An individual joining a reserve component today should expect to be called up and deployed in support of a military operation anywhere in the world. The probability and frequency of deployment for reserve members are dependent on the type of reserve unit joined, the member's military specialty, and the requirements of the various military operations.

As an example, there are certain units and specialties, such as Civil Affairs/Psychological Operations, Intelligence, and transport units, which are predominantly in the reserve components and are titled "High demand/low density." There are relatively few of these units and specialties in the force structure, but due to the nature of recent military operations throughout the world, these units and specialties have been used extensively during the past several years. Some reserve members in these types of units, or with these specialties, have experienced more than one deployment since 1990 (Kohner, 1999c).

On any given day, reserve members are deployed all over the world. Before the call-ups for the conflict in Kosovo, roughly 30,000 reserve members were on active duty and were providing support to different missions including the Bosnia and Southwest Asia deployments (Kohner, 1999a). Reservists have constituted 3 percent of the forces deployed to Southwest Asia since October 1994, 18 percent of those deployed to Bosnia since December 1995, and 41 percent of the forces deployed to Haiti since September 1994 (Perry et al., 1999; data are current as of May and June 1999).

Health Problems in Reserves

Some data have indicated that after the deployment to the Gulf War the health toll was greater on reserve forces than on active-duty forces. The earliest investigations of reported health problems after the Gulf War were in response to symptoms reported in several different National Guard and Reserve units in Indiana, Pennsylvania, and the southeastern United States. In each case, these units came to the attention of the medical community because of reports of high rates of unexplained illnesses among members of the units (Institute of Medicine, 1996a).

In a large telephone interview survey of military personnel from Iowa, those who had deployed to the Gulf War reported a significantly higher prevalence of several medical and psychiatric symptoms compared with those who had served elsewhere during the Gulf War (Iowa Persian Gulf Study Group, 1997). Differences in reported prevalences of medical and psychiatric symptoms were more apparent in the National Guard and Reserve units than in the regular military. Among those deployed to the Gulf, National Guard and Reserve personnel were more likely to have symptoms of chronic fatigue or alcohol abuse than regular military personnel (Iowa Persian Gulf Study Group, 1997). In a cross-sectional survey of veterans 18 to 24 months after their return from the Gulf War, subjects reporting greater than five health symptoms on a health symptom checklist were more likely to be female, to be unemployed, to have more alcohol and drug problems, and to be Reserve and National Guard members (Wolfe et al., 1998). In contrast, a study of women who served in the Air Force during the Gulf War found that despite their younger age, active-duty women reported significantly more general health problems than those in the National Guard or Reserve (Pierce, 1997).

In the years following the Gulf War, both the U.S. Department of Veterans Affairs (VA) and DoD established health evaluation and treatment programs for Gulf War veterans with concerns about their health; together these programs are called the Persian Gulf War registry. National Guard and Reserve service members deployed to the Gulf were roughly twice as likely to have participated in the Persian Gulf War registry than their active-duty counterparts (Gray et al., 1998).

UNIQUE CIRCUMSTANCES

The circumstances of the reserve components create additional challenges for strategies to protect their health during and after deployments. Although they carry a serious obligation to maintain readiness and provide military service in time of national need, reserve forces spend most of their time as civilians, with civilian jobs and lives. This has both psychosocial and practical ramifications.

Cultural differences between the active-duty and reserve components are important. Active-duty personnel, by definition, work full-time for the military and are immersed in its culture. Increasingly frequent deployments for service members keep the potential for deployment a present possibility. Reserve members engage in frequent drills and in 2 weeks of training each year, but their full-time occupations are civilian. They are necessarily more fully integrated into civilian culture than the active-duty component is. When a deployment occurs, their lives are disrupted more dramatically, and the increasing pace of deployments for reserve forces has meant more disruption and tension with their employers (Brackett, 1999b).

Some of the stressors that were new to the Gulf War may also have had a greater effect on the deployed reserve forces. Rapid mobilization, easier access than in previous major conflicts to communications with friends and families

and, therefore, to problems at home, and rapid demobilization were more disruptive for reservists and their families, since the reservists were being deployed from and returned to civilian life rather than to a military garrison setting (Institute of Medicine, 1996a). Since many reservists were activated to support units, this also created greater disruption, since in the Gulf War these units "had heavier workloads, more crowded and primitive living conditions, and less clearly defined roles and missions" (Institute of Medicine, 1996a, p. 60).

The manner in which health care is received is another important difference between reserve and active-duty personnel that leads to challenges for health protection. Although active-duty component service members receive all of their health care (except when they choose to use civilian providers and pay for health care themselves) from DoD, members of the reserve components receive most of their health care from civilian providers through their civilian employers' insurance. Only during periods when they are activated, such as during their 2 weeks of annual training or during a deployment, are they entitled to health care from DoD. If they become ill or are injured in the line of duty, special provisions for their care are made.

Because their medical care is provided outside the military system, medical records for reserve forces are not readily available to the military system. As in the military, most civilian medical records are still kept on paper. For a military physician to review a reservist's civilian medical record, he or she must be granted permission as well as the name and location of the reservist's provider. Such circumstances make it virtually impossible to easily consider reservists' health issues on a population basis, including monitoring of their health status over both the short and long term after a deployment. However, annually administering the Health Evaluation and Assessment Review (HEAR) to reserve members as recommended in Chapter 4 should help to provide population data for this group.

A related problem for both reserve and active-duty forces that is exacerbated for the reserve force is the carryover of medical records to VA and the capture of health information from the civilian sector. The creation of a true lifetime medical record is a challenge for all forces, but it is far more complicated for the reserve force members, who move more frequently than active-duty force troops among the civilian, DoD, and VA health care systems (National Science and Technology Council, 1998; Brackett, 1999a). Although the military is working toward a computer-based patient record for service members who use military treatment facilities, a lack of integration with civilian systems will pose a hurdle for the inclusion of medical records for reserve forces in this system. However, health history data from the Recruit Assessment Program (RAP) and health status information from the HEAR, and additional information from periods of deployment collected in a retrievable electronic form could be part of information carried over to the VA when reserves separate from the service.

Compounding the fact that reservists receive their care outside the military health system is the fact that the reservists' available time is very limited. Their

weekend drills and annual training are meant to be training time rather than administrative or health care sessions. Thus, physical examinations, immunizations, health appraisals, and briefings on health risks all compete for time with training for their deployment occupations (Brackett, 1999a).

At the same time that there is an increase in the use of the reserve component, there are few resources for health surveillance. The lack of equipment and funds results in training compromises. When medical personnel attend weekend training, they have time for little other than giving required periodic physicals. When immunizations such as the anthrax vaccine must be carried out on a specific schedule, the training must be rescheduled. For some immunizations, such as with the hepatitis A vaccine, the funds for the vaccine and the medical personnel to administer it are so limited that immunization has been delayed. The requirements for "medical readiness" of the reserve forces are not being met because of limited funding and policies requiring that physical examinations be carried out by military care providers. Dental screening is an example of a requirement for an annual screening that must be done by military dentists, yet there are very few in the reserves, so this requirement is not met (Brackett, 1999a). The availability of medical personnel is a problem in the Army Reserves, since these troops are dispersed throughout the United States and a corpsman or medic is not attached to each unit as in the Air Force and Naval Reserves. The Army Reserves thus frequently do not get physicals within the period of time required by law or get them at the expense of sustainment of training and readiness (Woody, 1999).

IMPLEMENTATION OF REPORT RECOMMENDATIONS

Medical Surveillance

Given the special circumstances of the reserve forces, some of the study team's recommendations might prove challenging for implementation for the reserve component. In the area of medical surveillance, tools such as the RAP and the HEAR are important aspects of the effort to gather baseline health information on deployed forces and to be able to ascertain medical problems as they arise. The annual administration of the HEAR to reservists would raise several difficult issues, however. In addition to its added toll on training time and the logistical challenges of arranging for an additional 1.4 million people to take a survey every year, difficult questions will arise when the health risk survey identifies areas in which the reservist could benefit from medical care. He or she must still seek this care in the civilian sector. Despite these obstacles, the revision and use of the HEAR as described in Chapter 4 should be helpful both to the deployed forces and to the military. Better understanding of the health status (including reproductive health status) of the forces both before and after deployments should lead to improved care and perhaps to the prevention of exacerbation of medically unexplained physical symptoms.

Administration of the postdeployment health questionnaires as currently required is particularly problematic if it is not done before the reservists leave the theater of operation. Once they have returned home, it is extremely difficult to collect such information. If the pre- and postdeployment questionnaires are phased out because they are made unnecessary by the annual administration of the HEAR (as discussed in Chapter 4), the administration of the HEAR to the reserve forces as well will be even more crucial.

Overall, the recent additional requirements for health surveillance have been particularly burdensome for the reserve forces because of their limited time and resources. Although it is important that these steps be taken, it should be done by use of a reasoned strategy for the reserve forces that takes their circumstances into account and that provides sufficient resources for additional demands.

In November 1997, Secretary Cohen launched a Reserve Health Summit to make recommendations to improve the medical readiness of reserve component members (Woody, 1999). Among the recommendations generated by the summit was to conduct a phased study to identify reserve component member health risks, develop a focused reserve component health assessment tool, implement a pilot program with the tool to measure individual medical fitness, and implement use of the tool if successful. Use of the HEAR for reserves as recommended in this report should help to address the health information needs identified by the Reserve Health Summit.

Medical Record Keeping

One of the goals articulated by the National Science and Technology Council (1998) was to "ensure the accuracy, timeliness, security, and retrievability of information that must be entered into records or automated systems that document health history for active, guard, and reserve service members and veterans" (p. 18). Longitudinal record keeping is critical to monitoring the delayed and prolonged manifestations of the health effects of war. For reserve-force members who receive health care from civilian health care systems, data collected from the RAP and the HEAR will be of particular importance as well as that added from periods of deployment as a way to permit some health surveillance of this group before and after deployment. An attempt to develop a form for the required annual dental screening for use by civilian dentists that is compatible with the form used by the military dentists is an example of an effort to integrate military and civilian medical records for the reserve forces. This is one of the less complicated components of the medical record, yet it is not an easy one to achieve (Woody, 1999).

As discussed above, the primary reliance upon civilian medical care providers by reserve forces poses considerable challenges to maintaining medical records for reserve members. These challenges should not be written off as insurmountable, however, and concrete initiatives are needed, as discussed in Chapter

5, such as collecting data from the RAP and HEAR in retrievable, analyzable, electronic form.

Preventive Measures

Time and resource constraints for reserve forces also affect the preventive measures provided for them. Among the preventive measures discussed in this report, risk communication is particularly important. It poses different challenges for reserve forces because they are deployed from a very different context of employment and family. Information networks for reserve forces are likely to be somewhat different from those for active-duty forces, and rumors and misinformation may be more rampant. Less contact time between reserve forces and command leadership is available to develop the trust and credibility necessary for effective communication. Recognition of these differences by command leadership is critical for providing maximally effective risk communication.

Just as accession and retention standards are applied differently across the services, there are likely disparities in their application among the seven reserve components. This is also the case for the periodic physical examinations, which are assiduously performed for National Guard and Reserve pilots, but not as regularly performed for the geographically scattered Army Reserve. In 1997 a Reserve Health Summit considered alternatives to periodic physicals because compliance was sporadic and incomplete among the reserves (Woody, 1999). Rather than maintaining the current focus on illness, discussions from the summit point to a need to move toward the health assessment and prevention model being pursued in the civilian sector and the military health care system. Administration of the HEAR to reserve forces would reflect this change in emphasis. It is likely that the civilian lifestyle is, in general, less healthy from a diet and fitness perspective than the active duty lifestyle. To the extent that this is true, members of the reserve forces might benefit even more from an emphasis on preventive intervention.

Immunizations are difficult to accomplish because of time and resource constraints, as described earlier. Reserve forces have inadequate funding to ensure that immunization programs are both complete and administered according to necessary schedules (Brackett, 1999a).

Reintegration

Chapter 7 stresses the particular extent to which separation and reintegration pose challenges for the reserve component.

FINDINGS AND RECOMMENDATIONS

Finding 8-1: Several of the most important components of a strategy to protect the health of deployed forces (improved medical surveillance and care responsive to medically unexplained physical symptoms, record keeping, risk communication, preventive measures, and reintegration) pose particular challenges for the reserve component because of their quasicivilian status and geographically dispersed situation. Since the Ready Reserve now constitutes almost half of the total force and is a significant component of deployed forces, its needs cannot be ignored or postponed. Although their special circumstances make it impossible to mandate a health protection strategy identical to that used for active-duty forces, a coherent strategy should be developed to provide similar programs that work toward the same ends and that are provided adequate resources.

Recommendation 8-1: Include the reserves in the planning, coordination, and implementation of improved health surveillance, record keeping, and risk communication. Inform recruits about the operational tempo of the units they are likely to join. Develop a strategy for the reserve forces that takes into consideration their limited access to the military health care system before and after deployment but that recognizes their particular needs for health protection and that provides adequate resources to meet those needs. Include the following:

- **Administer the Recruit Assessment Program to members of the reserve components upon their entrance into the military, and annually administer the improved Health Enrollment Assessment Review to members of the reserve components.** (See Chapter 4, Recommendations 4-1 and 4-2a.)
- **Develop methods to gather and analyze retrievable, electronically stored health data on reservists. For example, ensure that data from the Recruit Assessment Program and the Health Evaluation and Assessment Review collected from reserves (as recommended in Chapter 4) are captured as part of a computerized record permitting retrievability and population-level analysis as well as the addition of new data from periods of deployment or activation.** (Chapter 5, Recommendation 5-6)
- **Plan and provide adequate resources for the readjustment needs of the reserve component.** (Chapter 7, Recommendations 7-1 and 7-2)